

REMARKS

Applicant respectfully requests reconsideration of the present application in view of the foregoing amendments and in view of the reasons that follow.

Claims 1-4 are currently being amended. Independent claim 1 has been amended to add a further limitations of “determining an effective time as a difference between the printing time and a time offset corresponding to the print head” and that “determining whether to print a subset of the print data for the each of the plurality of staggered print heads based on the effective time corresponding to the print head.” Independent claim 4 has been amended to recite similar limitations. Dependent claims 2 and 3 have been amended for consistency with amended base claim 1. Support for these amendment can be found throughout the originally filed application, and in particular at pg. 32 at ¶¶ 89-90. Applicant believes no new matter is added by this amendment

This amendment adds, changes and/or deletes claims in this application. A detailed listing of all claims that are, or were, in the application, irrespective of whether the claim(s) remain under examination in the application, is presented, with an appropriate defined status identifier.

After amending the claims as set forth above, claims 1-18 are now pending in this application, of which claims 11-18 were previously withdrawn in response to a restriction requirement. Claims 1-10 remain subject to examination.

Allowable Subject Matter

Claims 7-10 have been allowed in the referenced Office Action. The Applicant thanks Examiner for the indication of allowable subject matter.

Claims Rejected Under 35 USC § 103

Claims 1-2, 4-5 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Pat. No. 6,672,697 to Haflinger (Haflinger), in view of U.S. Pub. App. No. 2004/0095420 to Ikemoto et al. (Ikemoto et al.).

The Examiner has stated that Haflinger does not explicitly disclose “providing the subset of print data to the print head if it is determined that the print head should print the subset of the print data; otherwise providing a predetermined data set to the print head” of the present invention, as claimed herein. Applicant agrees. Applicant respectfully disagrees, however, with the Examiner’s assertion that with respect to claims 1 and 4 Haflinger discloses “determining whether to print data based on the time offset corresponding to the print head.” Applicant believes that the Examiner has mischaracterized the Haflinger in this regard. After a careful review of the reference, Applicant finds no such support or suggestion that “whether to print data” is in any way based on a time offset to the print head.

Haflinger purports to improve image quality in multi-head printer by dithering the transition from one print head to the next and by individually adjusting the timing of the firing of each of the print heads. (Abstract). Haflinger explains dithering at col. 6, lines 58-61 as “a method of printing a raster line by assigning some pixels in a raster line to nozzles that are on print head 56, and the rest to a nozzle on the other print head 60.” Haflinger refers to such an arrangement in which some droplets come from one print head and the rest come from the other as a “dithering pattern.” Thus, Haflinger determines whether to print based on a dithering pattern. There is nothing in Haflinger to suggest that the dithering pattern is in any way related to any time offset.

Haflinger also describes the concept of a “timing correction, otherwise referred to as offset,” at col. 8, lines 4-6. The offset is used to improve horizontal misalignment. Timing of the firing of droplets from each print head is altered to correct misalignment problems, with the correction preferably taking place in the firing control circuitry. (Col. 8, lines 8-16). Unless a

droplet is assigned to another print head by a dither pattern, the droplet will always be fired by the print head within a given raster line, the particular timing of the firing determined by the offset. Thus, Haflinger describes using a time offset to determine when to print but not whether to print.

The Examiner relies upon Ikemoto et al. for the proposition of providing a subset of print data to the print head if it is determined that the print head should print the subset of the print data; otherwise providing a predetermined data set to the print head. Even if Ikemoto et al. is combined with Haflinger as suggested in the Office Action, the combination still fails to describe, teach, or suggest each and every limitation of the claim.

Ikemoto et al. describes on pg. 5 at ¶101 that whether the head drive unit supplies either of adjacent head chips either with driving data or dummy data is determined according to the “predetermined settings.” In particular, the dots are printed such that they are “mixed by two head chips.” (Pg. 6 at ¶110). Ikemoto et al. fails to describe “determining whether to print data based on the time offset corresponding to the print head,” as recited in Applicant’s claimed invention. Accordingly, Ikemoto et al. considered alone or in combination with Haflinger fails to cure the defects of Haflinger. Applicant respectfully requests that the rejection of independent claims 1 and 4 be withdrawn.

Dependent claim 2 depends directly from independent claim 1 and therefore includes all of the limitations of independent claim 1. Similarly, dependent claim 5 depends directly from independent claim 4 and therefore includes all of the limitations of independent claim 4. Accordingly, dependent claims 2 and 5 are allowable for at least the same reasons argued above with respect to their respective base claims. Applicant respectfully requests that the rejection of dependent claims 2 and 5 be withdrawn.

Claim 4 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Haflinger.

As argued above, Haflinger fails to disclose, teach, or suggest all of the limitations of independent claim 4 at least with respect to “determining whether to print data based on the time offset corresponding to the print head,” as recited in Applicant’s claimed invention. For at least this reason, independent claim 4 is not obvious in view of Haflinger. Applicant respectfully requests that the rejection of independent claim 4 be withdrawn.

Claims 3, 6 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Haflinger in view of U.S. Pub. App. No. 2002/0057306 to McDonald (McDonald).

McDonald describes an ink jet temperature regulation controller that includes a head temperature sampler (HTS) and a preheat data generator (PDG). The PDG circuit translates head temperature data into a data type appropriate for a preheat delivery unit (PDU). Preheat data is updated responsive to monitoring provided by the temperature sampler (see FIG. 6, Step 612).

McDonald fails to disclose, teach, or suggest at least “determining whether to print data based on the time offset corresponding to the print head.” Thus, McDonald considered alone or in combination with Haflinger fails to cure the defect of Haflinger. Applicant respectfully requests that the rejection of dependent claims 3 and 6 be withdrawn.

Applicant believes that the present application is now in condition for allowance. Favorable reconsideration of the application as amended is respectfully requested.

The Examiner is invited to contact the undersigned by telephone if it is felt that a telephone interview would advance the prosecution of the present application.

The Commissioner is hereby authorized to charge any additional fees which may be required regarding this application under 37 C.F.R. §§ 1.16-1.17, or credit any overpayment, to Deposit Account No. 19-0741. Should no proper payment be enclosed herewith, as by a check or credit card payment form being in the wrong amount, unsigned, post-dated, otherwise improper

or informal or even entirely missing, the Commissioner is authorized to charge the unpaid amount to Deposit Account No. 19-0741. If any extensions of time are needed for timely acceptance of papers submitted herewith, Applicant hereby petitions for such extension under 37 C.F.R. §1.136 and authorizes payment of any such extensions fees to Deposit Account No. 19-0741.

Respectfully submitted,

Date 08/09/2007

FOLEY & LARDNER LLP
Customer Number: 48329
Telephone: (617) 342-4000
Facsimile: (617) 342-4001

By Ralph Tremontozzi

Ralph Tremontozzi
Attorney for Applicant
Registration No. 55,686